



NTSB 2017–2018

# MOST WANTED LIST OF

TRANSPORTATION SAFETY IMPROVEMENTS

## Expand Recorder Use to Enhance Safety



MARINE

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## What is the issue?

Recorders—data, audio/voice, and video—can capture and store critical information that can help investigators determine the cause of an accident and operators take proactive steps to prevent them. Yet, some ferry vessels are still not equipped with these critical technologies, even though recorders are readily available and becoming more affordable.

A voyage data recorder (VDR) records technical information about a vessel's operation for a minimum of 12 hours before, during, and after an accident. Voice recorders, typically installed on the navigation bridge, capture crew discussions, alarms, and sounds using several microphones. Existing vessels with older equipment are usually fitted with simplified VDRs (S-VDRs) that record voice and data.

We have used VDR data to determine the cause of accidents and to develop recommendations to help prevent future accidents; however, several of our investigations have been hampered by a vessel's lack of a data recorder. For example, the *Seastreak Wall Street*—a high-speed passenger ferry serving commuters traveling between New Jersey and New York City—struck a Manhattan pier on January 9, 2013, injuring 80 people. Several aspects of our investigation would have benefited had the *Seastreak Wall Street* been equipped with a VDR. A VDR could have captured the vessel's operating conditions; propulsion commands ordered and system responses; audio recording on the bridge, which could have clarified interactions between officers and told us of any alerts that were activated; and the status of the controllable pitch propulsion system; and could have given us a precise record of vessel movements, along with other information.

In 2016, we recovered a VDR from the US flag vessel *El Faro* in more than 15,000 feet of water. Twenty-six hours of voice and data recordings have helped investigators understand the events that led to the vessel sinking. The VDR was crucial evidence in the absence of witnesses and will likely prove the critical importance of having this safety equipment on all marine vessels.

Recorders help with determining the cause of an accident, but, perhaps more importantly, they also help operators establish and monitor effective safety management strategies. Data from recorders can be used to adjust procedures and enhance crew training to prevent accidents from happening in the first place. Although some operators have implemented or are in the process of implementing recorder programs and systems,



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many are slow to do so without regulatory requirements.

## What can be done?

Crash-resistant data, audio/voice, and image recorders are readily available and can be easily installed in vessels and ferries. Regulations should work to remove barriers for industry and encourage voluntary implementation.

After the *Seastreak Wall Street* accident, we recommended that fully capable VDRs that meet an existing performance standard be required on new ferry vessels that typically carry more than 150 passengers (those subject to 46 *Code of Federal Regulations [CFR]* Subchapters H and K). Existing vessels should be required to have S-VDRs. We also recommended that a performance standard be developed for smaller vessels subject to 46 CFR Subchapter T and that such equipment be required when technically feasible.

The US Coast Guard (USCG) is making progress addressing the benefits recorders have on safety. For example, on September 1, 2016, the USCG released a marine safety alert (Safety Alert 12-16) reminding vessel owners and operators to periodically validate that their vessel's VDR is operating properly. Although this alert is a step toward recognizing the benefits of recorders in marine safety, it only addresses a small population of operators. We believe that operators should proactively procure recorder technology to improve the operational and safety oversight of their vessels and not wait for regulators to take action. ■

**Data from recorders can be used to adjust procedures and enhance crew training to prevent accidents from happening in the first place.**



The NTSB Most Wanted List highlights safety issues identified from the NTSB's accident investigations to increase awareness about the issues and promote recommended safety solutions.

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation – railroad, highway, marine and pipeline. The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.

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### Related Accidents\*

Date	Location	Accident ID
January 9, 2013	Manhattan, NY	DCA13MM005
October 5, 2015	Crooked Islands, Bahamas	DCA16MM001

\*For detailed accident reports visit [www.nts.gov](http://www.nts.gov)

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**Critical changes needed to reduce transportation accidents and save lives.**

